Thomas P. Turner's
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FLYING LESSONS for October 23, 2025

FLYING LESSONS uses recent mishap reports to consider what *might* have contributed to accidents, so you can make better decisions if you face similar circumstances. In most cases design characteristics of a specific airplane have little direct bearing on the possible causes of aircraft accidents—but knowing how your airplane's systems respond can make the difference in your success as the scenario unfolds. So apply these *FLYING LESSONS* to the specific airplane you fly. Verify all technical information before applying it to your aircraft or operation, with manufacturers' data and recommendations taking precedence. **You are pilot in command and are ultimately responsible for the decisions you make.**

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This week's LESSONS

Who's Your First Officer?

From a National Transportation Safety Board preliminary report:

On September 24, 2025, at 2117 eastern daylight time (EDT), CommuteAir (dba United Express flight 4339), Embraer EMB-145XR, N21129, experienced a **runway excursion** while landing at Roanoke-Blacksburg Regional Airport (ROA), Roanoke, Virginia (VA). **The airplane overran the end of runway 34** and came to rest in the engineered materials arresting system (EMAS).

According to the flight crew, this was the **second leg of day four, of a four-day rotation**, and the first leg on the incident airplane. Prior to departure, the airplane had to be deplaned twice for maintenance related anomalies. After boarding for a third time, the flight crew reviewed the weather and briefed the thunderstorms approaching ROA. The airplane pushed back approximately **two and a half hours after the scheduled departure time**.

En route, the flight crew reviewed the Automatic Terminal Information Services (ATIS) weather information for ROA. The ATIS reported **calm winds, no precipitation, a cloud ceiling of 15,000 feet**, and that runway 6 was in use. The **captain, *pilot flying***, briefed the localizer approach to runway 6. The **first officer (FO), *pilot monitoring***, suggested reviewing the landing performance details for a **wet runway**, or a runway condition code (RCC) of 5, but the captain declined due to the ATIS not reporting precipitation.

During descent, the flight crew checked in with approach control and was informed of precipitation along the approach path to runway 6 and that other aircraft were using runway 34 for landing. The captain requested the FO set up for the instrument landing system (ILS) approach to runway 34 and to brief the approach. The FO set up the ILS runway 34 approach, briefed the approach changes, and monitored the weather radar.

After turning on final approach, the flight crew observed the runway and heard the previous landing aircraft report marginal visibility and bumpy conditions. **During the approach, the rain intensity increased**, and the captain requested that the FO run the performance calculation for landing on a wet runway with a RCC of 5. The FO ran the performance calculations and determined that they would have a **margin of approximately 200 feet more than was required**, without thrust reverser usage. The captain **briefed the go-around** procedures and that they would divert to Piedmont Triad International Airport (GSO), Greensboro, North Carolina if they executed a go-around.

On short final, the rain intensity increased, and the captain requested windshield wipers at high. As the airplane descended **below 500 feet, the FO observed that they were high on the precision approach path indicator (PAPI)** and then observed the captain correcting the flight path, but recalled they were **still high as the airplane crossed the threshold**. After crossing the runway markings, ***the FO called for a go-***

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around, but the captain continued. ***About halfway down the runway, the FO called for a go-around a second time***, but the captain continued.

The airplane touched down and the flight crew applied maximum braking and deployed the engine thrust reversers. **The airplane overran the end of the runway** and came to rest in the EMAS. The FO attempted to communicate with air traffic control (ATC), but the communications button had disengaged. After engaging the communications button, the FO coordinated with ATC and contacted the flight attendant (FA). The FA verified that there were no injuries. The flight crew completed the emergency evacuation checklist and prepared for an evacuation. Airport rescue firefighting (ARFF) personnel boarded the airplane and assisted with evacuating passengers down a ladder.

The investigation is ongoing.

See https://thomaspturner.com/wp-content/uploads/2025/10/2025.0924-EMB145XR-VA.pdf

Most of us don't have the opportunity to fly with a first officer, a **pilot monitoring** our performance and control inputs and calling out actions if performance or inputs are outside desired parameters. Communication appears to have broken down in the case of this Regional Jet. The captain may have been influenced by the numerous delays to the day's second flight that may have threatened the crew's ability to get back to its domicile on "go-home day; that's for the NTSB to discover. But on thousands of mulitpilot crew flights every day the added safety of a second pilot objectively (to the extent possible) monitoring the Pilot Flying's performance adds substantial safety benefit.

How can we realize some of this benefit in a single-pilot aircraft? I've found it helps to **make callouts out loud** when flying alone. **Talk yourself through each phase of flight** and, I believe, you'll more actively detect deviations and control your flight path.

For example, on final approach **confirm aloud** that the airplane is:

1. **On speed.** You're flying the proper airspeed for the approach, not too fast, not too slow. If you're not already flying consistently at your POH-recommended 50-foot "over the threshold" speed, you're on **a trend** of speed reduction **that will result at you being at the target** speed as you cross that mythical 50-foot obstacle.
2. **In configuration.** Flaps, landing gear (in retractable gear airplanes), spoilers, whatever's applicable to the airplane you're flying is set for landing.
3. **On glidepath.** You're flying a consistent, stable angle of descent that results in reaching your intended touchdown zone.
4. **In alignment.** You're lined up with the extended runway centerline with no sideways drift.

By saying these thing aloud you should be more likely to actually check your current **state** (where you are in relationship with the four goals) and the aircraft's **trend**, that is, is the aircraft gradually moving toward the speed, position and alignment needed to touch down in your desired zone at the proper speed with the runway stripe between the main wheels.

More importantly, this technique also reinforces detecting when you are *not* on speed, in configuration, on glidepath and in alignment, so you can **correct if the deviation is small** and there's time for a smooth trend to make the correction, **or execute a go-around immediately** if the deviation is too great to recover in the time remaining.

Don't wait until you're in the flare to go around if conditions are such you know you won't touch down on target, on speed. Smoothly **power up, clean up and climb** so you won't have to start the maneuver from a low speed, high angle of attack, high drag state close to the ground.

You can be your own first officer. Talk to yourself, call out the airplane's state and trend, and break away from the maneuver or phase of flight if performance is outside tolerances to the point you can't correct smoothly to achieve your goal.

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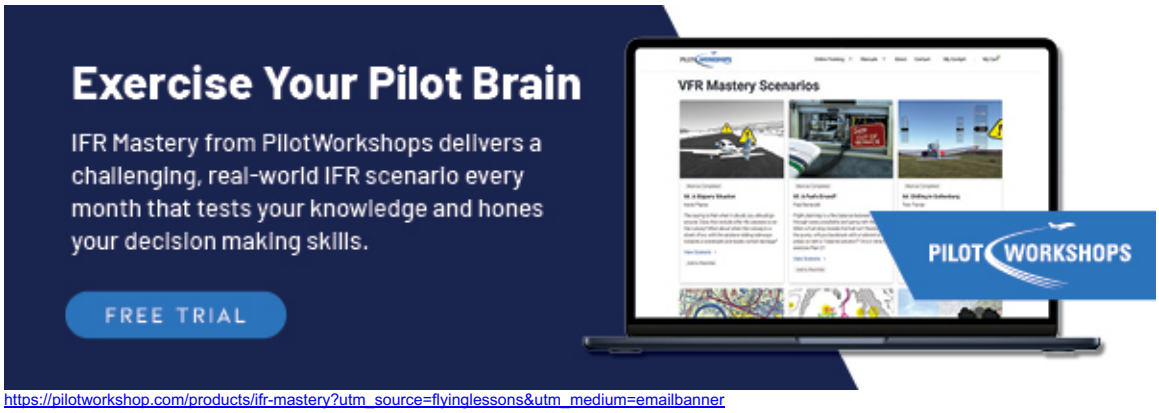
The crew of the Embraer jet was briefing and monitoring, but for some reason the pilot flying didn't act when reports are the pilot monitoring warned of a deviation and followed the pre-agreed option of a go-around. No technique is perfect, or infallible. But that crew had a chance. **By being your own first officer you can have that added chance as well.**

Questions? Comments? Supportable opinions? Let us know at mastery.flight.training@cox.net.



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Debrief

Readers write about recent *LESSONS*:

Reader Ron Horton writes about last week's *LESSONS*:

> I'm in my 60th year of flying. The 10/16/25 *FLYING LESSONS* may be the most concise and informative discussion of icing I have ever *encountered* (see what I did there?). This one issue of *LESSONS* is worth at least a year of Patreon support for you.
>
> It has already been forwarded to all of the (mostly young) CFIs in our school, where FIKI equipped Cirri are part of the training fleet. When I was studying for my Instrument written back in the early 1980s, the cassette tape course I was using included one memorable line that I quote on almost every checkride as we discuss icing: **"Icing gives small airplanes the flying characteristics of a manhole cover."**
>
> Thank you (again and again) for what you do to make a difference in the flying lives of people you will never meet. That is the true definition of Service.

Thank you very much, Ron. I'm glad to be of help in your vital work with young flight instructors.

See https://thomaspturner.com/wp-admin/post.php?post=5957&action=edit

Reader John Owen answers a question I asked in last week's report about required pilot training as part of the requirements for validity of "known ice" certification in Cirrus airplanes:

> Cirrus pilots are required to have successfully completed the Cirrus icing course within 24 months before using the FIKI system. It is easy. Informative and available. I hope that helps.

It does, John, and thank you. Reader Ari Levien adds:

> Hi Tom. Thanks for all of your effort and passion in helping keep so many of us safe! Cirrus requires (and **it is in the Limitations section of my FIKI-certified SR22T POH**) that ***to act as PIC in known icing you need to have completed the Cirrus icing course within the preceding 24 months.*** The current release of the supplement deletes that requirement for the EU [European Union]. There are also some other requirements (minimum TKS fluid levels, speeds, equipment required) and a detailed explanation of what the system can be expected to cope with. I have attached the POH supplement in case you are interested - this is for the G6. Kind regards, and keep up the excellent work!

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Thanks for the confirmation, Ari, and for the document.

See https://thomaspturner.com/wp-content/uploads/2025/10/13772-161R2-FIKI-for-Perspective.pdf

Reader Randy Starbuck quips:

> When I first went to Netjets one of my fellow pilots (a retired part 121 guy) gave me a little piece of advice: "Never get your airplane wet." Largely impossible, but good advice nevertheless. . .Keep 'em coming.

Indeed it is, Randy. Thank you.

Reader Robert Lough continues:

> Thank you for the timely seasonal reminder - I hate ice! Most of my flying in winter is in piston FIKI equipment, and the airways system is very good at keeping you in icing conditions beyond the design capability of the de-ice and anti-ice systems. ***You have to act promptly to exit light moderate ice, even if in FIKI equipment.***
>
> Two mitigation strategies I rely on, in addition to no-go parameters: **check that freezing level is comfortably above MSA**, which technically gives you an out if you act promptly; and I use the Beech Baron **ice escape speed** of KIAS 130 even though am in another brand twin. Some POHs (e.g. Diamond DA42) advise no flaps with wing contamination. A colleague had a stabilator stall when extending flaps on an instrument approach (FIKI airplane). A45-degree sudden nose down pitch attitude grabs your attention! He quickly retracted the flaps.

You're right, there's a lot about flight in icing that is specific to the model of airplane you're flying, and its equipment. Read and follow the POH. Most recommend against any flap extension with ice, and industry consensus is to avoid flap use in ice even if the handbook is silent on the issue.

Reader and retired test pilot Dale Bleakney, who began our icing discussion a couple of weeks ago, adds more:

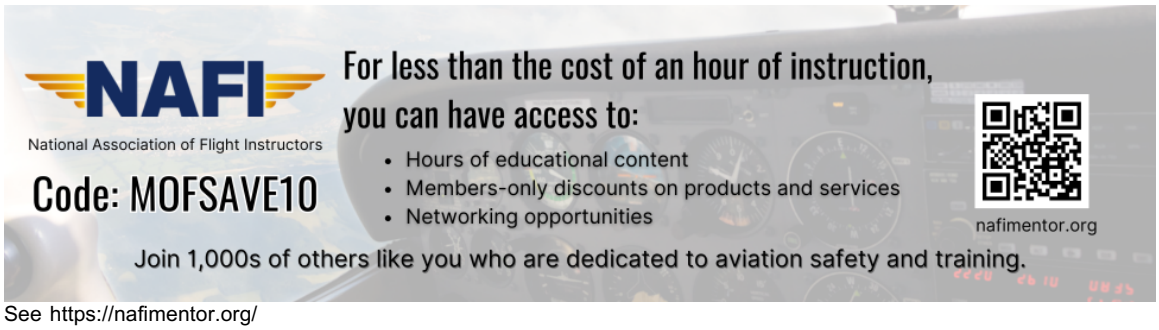
> The worst icing I ever got was when it wasn't supposed to be there. Fortunately, my instructor from my Private Pilot days told me to **always leave yourself an out**. **It is nice to have when you need it.** Thank you for emphasizing that in this newsletter.

You gave me an opening to discuss details few ever consider. Thank you again, Dale.

More to say? Let us learn from you, at **mastery.flight.training@cox.net**

Watch my webinar "On Centerline: Avoiding Loss of Directional Control on the Runway," broadcast live and recorded on October 22. The topic of this week's *LESSON* was one part of my presentation. **Thank *you, EAA*** for again asking me to be a guest on your weekly program.

See https://www.eaa.org/videos/6383578447112



See https://nafimentor.org/

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Two 2025 donations: John Teipen, John Whitehead, Denny Southard, Wayne Colburn

NEW THIS WEEK: John Owen, Wayne Mudge, Dale Bleakney

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